

December 4, 2003

OSWER Docket, EPA Docket Center
Mailcode (5305T)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460-0002

Fax Submission

Attention: Docket ID Number RCRA-2003-0023

RE: Hazardous Waste Management System: Petroleum Refining Process Wastes; Identification of Characteristically Hazardous Self-Heating Solids; Land Disposal Restrictions: Treatment Standards for Spent Hydrorefining Catalyst (K172), 67 FR 13687 (March 25, 2002) ("the Proposed Gasifier Rule") RCRA Docket No. RCRA-2003-0023

Dear Sir/Madam:

DuraTherm, Inc., submits the following in response to EPA's request for comments regarding the Vanadium Producers and Reclaimers Association (VPRA) petition for change. DuraTherm operates the San Leon Recycling Center, a RCRA-permitted facility specializing in the recovery of oil and other value from hydrocarbon-contaminated wastes. The San Leon facility, located near Houston, Texas, is the leader in petroleum refinery hazardous waste processing and possesses the largest RCRA-permitted thermal desorption capacity in the United States.

SUMMARY OF DURATHERM'S COMMENTS

VPRA's statement that the Land Disposal Restriction (LDR) treatment standards fail to address the actual Universal Treatment Standard (UTS) PAHs present in K172 is correct. Their assertion, though, that hydrotreating catalyst K171 is reactive and "self-heating" subsequent to thermal desorption is incorrect. DuraTherm agrees with VPRA's position that the hazardous oil-bearing secondary material exclusion (40 CFR 261.4 (a) (12) (i)) should not apply to spent refinery catalysts.

DURATHERM'S SPECIFIC COMMENTS ON TREATMENT STANDARDS FOR K172

VPRA raises valid issues relative to K172 LDR standards. Virtually all K172 catalyst is sent directly to landfill where it is stabilized for metals prior to land disposal but is not treated to remove the UTS PAHs present in the waste.

DuraTherm has profiled dozens of catalyst waste streams from refiners throughout the United States. The majority of these streams are listed as K171, and virtually all are

RECEIVED
DEC - 5 2003

000001

DuraTherm Comments Docket ID number RCRA-2003-0023

December 4, 2003

Page 2 of 3

described as hydrotreating catalyst. The spent catalyst DuraTherm has received has almost exclusively been manifested as K171. In some cases, when refinery waste coordinators are being extremely cautious, the catalyst may be profiled and shipped as K171 and K172. The dual-coded catalysts are identical in characteristics to K171, are described as "hydrotreating catalyst" by the waste coordinators, and are, in fact, K171.

In the years since promulgation, DuraTherm has received only six profile submittals for waste identified exclusively as K172 that resulted in three waste shipments from refiners and one shipment from a catalyst regenerator. The largest portion of these catalysts had Phenanthrene, Fluorene and Naphthalene exponentially higher than UTS standards. DuraTherm has received no K172 since 2000. DuraTherm has, on the other hand, processed tens of thousands of tons of K171, which fails to meet LDR standards. The fact that DuraTherm profiles large volumes of K171 and insignificant volumes of K172 is unsurprising given the fact that K172 is used in a heavy oil processing and the LDR standards comprise light BTEX organics.

DuraTherm believes that everyone conversant with the hydrofining process, including the refining community, the Agency, and the VPRA, is aware that K172 contains heavy UTS PAH compounds that are being landfilled without treatment and that it contains virtually none of the light BTEX LDR compounds for which it is listed. Anyone knowledgeable in the field would expect to find higher boiling range PAH compounds, not the lower boiling range compounds for which the waste is listed.

DURATHERM'S SPECIFIC COMMENTS ON REACTIVITY/IGNITABILITY OF REFINING CATALYST

DuraTherm screens all waste for reactivity and has never rejected a submitted profile for refinery catalyst because of reactivity. The screening process is so successful that DuraTherm has never received catalyst that reacted and began the process of self-heating. The spontaneous sulfide reaction that VPRA describes typically and characteristically occurs when iron sulfides are present and involves a change in the oxidation state of iron. The spent catalysts contain very little iron. Most of the sulfur is primarily bound to molybdenum which produces a much more stable compound.

The catalysts may or may not be reactive when first removed from the reactor and exposed to air; DuraTherm has no experience with that procedure. The samples, however, are neither reactive nor self-heating when they arrive at the DuraTherm facility or after they are processed. VPRA's statement that the addition of water proves that the catalyst is reactive is inconsistent with DuraTherm's experience since the catalyst. DuraTherm receives typically contains no water at all.

Treated catalyst will often remain at DuraTherm's site for many days after thermal desorption; no reactivity or self-heating has ever occurred. DuraTherm sends the

000002

DuraTherm Comments Docket ID number RCRA-2003-0023

December 4, 2003

Page 3 of 3

majority of its thermally treated catalyst to VPRA members for metals recovery once organics have been removed, and these VPRA members have never reported reactivity of treated catalyst. DuraTherm sends the remaining volume of treated K171 to land disposal for stabilization; the landfill operators have never reported self-heating or reactivity.

DuraTherm believes that if a sanctioned EPA test method for reactive sulfides existed, molybdenum disulfide would not be likely to be found reactive. Molybdenum disulfide is soluble only in hot concentrated acids such as aqua regia, and the tri-, tetra-, penta-, and sesquasulfides of molybdenum all decompose with heat.

DURATHERM'S SPECIFIC COMMENTS ON THE APPLICABILITY OF HAZARDOUS OIL-BEARING SECONDARY EXCLUSION TO K171/K172

DuraTherm agrees with VPRA's position that the exclusion should not apply to K171/K172 and further believes that VPRA's position that F037 should be expanded to include vanadium, arsenic, and antimony is representative of the many abuses practiced under the umbrella of this exclusion. Like the majority of waste that moves from one refinery to the next for commercial waste treatment and disposal under this jurisdictional exclusion, K171/K172 is not "feedstock like" and is not inserted into "normal feedstock injection" points; it is more likely to be processed for a commercial tipping fee through an in-refinery thermal desorber without the same controls or regulatory compliance RCRA-permitted treatment competitors such as DuraTherm and VPRA members offer.

The EPA has unintentionally created two standards for commercial refinery waste treatment. The original intent of the jurisdictional exclusion that directed "feedstock like" materials into the refining process has been and continues to be grossly abused and distorted as commercial waste processors add ash and PAHs to petroleum coke without identifying ash and PAH content and operate, unimpeded, facilities and processes, such as thermal desorption, without RCRA approval and controls in direct competition with RCRA-permitted facilities.

Respectfully,

DuraTherm, Inc.

David L. Syhre

David L. Syhre
Chief Chemist and Laboratory Manager

000003